PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

In Re Application of:	)
	) Group Art Unit: 2154
Hochmuth, et al.	)
	) Examiner: Patel, Ashokkumar B.
Serial No.: 09/941,254	)
	) Confirmation No. 6013
Filed: August 27, 2001	)
	) HP Docket No.: 10007641-1
For: System and Method for Communicating Graphics Images over a Computer Network	) TKHR Docket: 50819-1360)

APPEAL BRIEF UNDER 37 C.F.R. §41.37

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Sir:

This is an appeal from the decision of Examiner Ashokkumar Patel, Group Art Unit 2154, mailed July 11, 2007, rejecting claims 1-14, 19, and 20 of the present application and making the rejection FINAL.

I. REAL PARTY IN INTEREST

The real party in interest of the instant application is Hewlett-Packard Development Company, a Texas Limited Liability Partnership having its principal place of business in Houston, Texas.

II. RELATED APPEALS AND INTERFERENCES

There are no known related appeals or interferences.

III. STATUS OF THE CLAIMS

Claim 1-14, 19, and 20 are pending in this application, and all claims were rejected by the FINAL Office Action and are the subject of this appeal.

IV. STATUS OF AMENDMENTS

There have been no claim amendments made after the Final Office Action, and all amendments made before the Final Office Action have been entered. A copy of the current claims is attached hereto as Appendix A.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Embodiments of the claimed subject matter are illustrated in FIGs. 1 through 6 and are discussed in the specification at least in pages 4-14.

Embodiments of the invention, such as those defined by claim 1, define an apparatus (see e.g., item 100, FIG. 1, and p. 4, lines 11-20) for communicating graphics between at least two remotely-located computers (see e.g., items 20 and 50, FIG. 1, and p. 4, line 7) across a computer network (see e.g., items 30 and 40, FIG. 1, and p. 4, lines 8-10) comprising: an input (see e.g., item 110, FIG. 2, and p. 8, lines 3-7) for receiving a video signal (see e.g., item 22, FIG. 2, and p. 7, line 24) output from a graphics card of a source computer (see e.g., item 20, FIG. 1, and p. 4, lines 6-9); a memory (see e.g., item 140, FIG. 2, and p. 8, lines 12-18) for storing discrete units of the video signal; a compression circuit (see e.g., item 120, FIG. 2, and p. 8, line 12

through p. 9, line 13) for compressing a plurality of the discrete units into a compressed video signal; a network interface circuit (see e.g., item 130, FIG. 2, and p. 9, lines 14-22) coupled to both the compression circuit (see e.g., item 120, FIG. 2, and p. 8, line 12 through p. 9, line 13) and the computer network (see e.g., items 30 and 40, FIG. 1, and p. 4, lines 8-10), the network interface circuit (see e.g., item 130, FIG. 2, and p. 9, lines 14-22) configured to format and communicate the compressed video signal over the computer network (see e.g., items 30 and 40, FIG. 1, and p. 4, lines 8-10) to a remote computer (see e.g., item 50, FIG. 1, and p. 6, line 21); and an output coupled to the computer network (see e.g., items 30 and 40, FIG. 1, and p. 4, lines 8-10).

Embodiments of the invention, such as those defined by claim 2 define an apparatus (see e.g., item 100, FIG. 1, and p. 4, lines 11-20) for communicating graphics across a computer network (see e.g., items 30 and 40, FIG. 1, and p. 4, lines 8-10) comprising: an input (see e.g., item 110, FIG. 2, and p. 8, lines 3-7) for receiving a video signal (see e.g., item 22, FIG. 2, and p. 7, lines 21-25); a memory (see e.g., item 140, FIG. 2, and p. 8, lines 12-18) for storing discrete units of the video signal; a compression circuit (see e.g., item 120, FIG. 2, and p. 8, line 12 through p. 9, line 13) for compressing a plurality of the discrete units into a compressed video signal; and a network interface circuit (see e.g., item 130, FIG. 2, and p. 9, lines 14-22) coupled to both the compression circuit (see e.g., item 120, FIG. 2, and p. 8, line 12 through p. 9, line 13) and the computer network (see e.g., items 30 and 40, FIG. 1, and p. 4, lines 8-10), the network interface circuit (see e.g., item 130, FIG. 2, and p. 9, lines 14-22) configured to format and communicate the compressed video signal over the computer

network (see e.g., items 30 and 40, FIG. 12, and p. 4, lines 8-10) to a remote computer (see e.g., item 50, FIG. 1, and p. 6, line 21).

Embodiments of the invention, such as those defined by claim 19 define a method for communicating graphics across a computer network comprising: receiving (see e.g., item 172, FIG. 3, and p. 10, lines 1-15) a video signal from a graphics card of a source computer; converting (see e.g., item 173, FIG. 3, and p. 10, lines 1-15) the video signal into a format suitable for communication over a computer network (see e.g., items 30 and 40, FIG. 1, and p. 10, lines 1-15); and communicating (see e.g., item 178, FIG. 3, and p. 10, lines 1-15) the converted video signal across the computer network (see e.g., items 30 and 40, FIG. 1, and p. 4, lines 8-10) to a remote computer (see e.g., item 50, FIG. 1, and p. 10, lines 1-15).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The FINAL Office Action rejected claims 1-5, 7-12, and 15-20 under 35 U.S.C. § 102(e) as allegedly anticipated by US patent 6,675,386 to Hendricks.

VII. ARGUMENT

Rejection of claims 1-5, 7-12, and 15-20 under 35 U.S.C. § 102(e) as allegedly anticipated by US patent 6,675,386 to Hendricks

The FINAL Office Action has rejected claims 1-5, 7-12, and 15-20 under 35 U.S.C. § 102(e) as allegedly anticipated by US patent 6,675,386 to Hendricks. Applicants respectfully submit that these rejections are misplaced and should be overturned, for various fundamental reasons. In applying the cited reference to the

claims, the Office Action has ignored certain claimed features that the references do not teach or disclose. Applicant previously pointed out these distinctions to the Examiner, and the Examiner responded by stating: "it is only necessary that the claims 'read on' ***something*** disclosed in the reference …" (*citing Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772 (Fed. Cir. 1983). Applicant respectfully disagrees with the Application of Hendricks, for at least the reasons set forth below.

Independent claim 1 recites:

> 1. An ***apparatus for communicating graphics between at least two remotely-located computers across a computer network comprising***:
> ***an input for receiving a video signal output from a graphics card of a source computer***;
> ***a memory for storing discrete units of the video signal;***
> ***a compression circuit for compressing a plurality of the discrete units into a compressed video signal***;
> a network interface circuit coupled to both the compression circuit and the computer network, the network interface circuit configured to format and communicate the compressed video signal over the computer network to a remote computer; and
> an output coupled to the computer network.

(*Emphasis added.*) Claim 1 patently defines over the cited art for at least the reason that Hendricks fails to disclose at least the features emphasized above.

First, and with regard to a fundamental feature of the claimed embodiments (i.e., "communicating graphics between at least two remotely-located computers …"), the Office Action cited FIG. 3A, elements 104 and 134 as teaching the first computer. (See FINAL Office Action, p. 5). Applicants respectfully traverse this application of Hendricks. Element 104 denotes a camera (see col. 6, line 47). Element 106 (which was reference in the previous Office Action) denotes a video tape (see col. 6, line 52). Finally, element

134 denotes a controller for controlling the associated camera 104 (see col. 7, lines 36-40). These elements are consistent with the essence of Hendricks, which is stated therein as being "a method and apparatus for communicating multiple live video feeds over the internet." Simply stated, these elements do not disclose one of the two remotely-located computers of claim 1. For at least this reason, the application of Hendricks to claim 1 should be overturned.

A more significant misapplication of Hendricks is reflected in the next element of the claim. Specifically, claim 1 recites "***an input for receiving a video signal output from a graphics card of a source computer.***" The FINAL Office Action (see p. 6) cites FIG. 3A, elements 104 and 134, and col. 6, line 65 – col. 7, line 22 as allegedly teaching this feature. Applicant respectfully disagrees. As noted above, element 104 denotes a camera and element 134 denotes a camera controller. Accordingly, none of these elements can properly disclose the claimed video signal output from the graphics card of a source computer. In addition, element 106 (again, this element was included in the previous Office Action) denotes a video tape, which is not a graphics card of the claimed source computer either.

Referring to the present application, the paragraph on page 4, line 13 states:

> To facilitate the communication of video information from a source computer 20 to a destination computer 50, a novel network video apparatus (NVA) 100 is provided. Various embodiments of such a NVA 100 will be described in more detail herein (*e.g.*, FIGS. 2 and 5). In short, the NVA 100 operates by receiving a video signal at an input, formatting the video signal for network communication, and outputting the formatted video signal across one or more networks. ***More particularly, a standard or conventional video signal, such as a video signal generated by a video graphics card, may be connected to the NVA***

> ***100. This connection may be made through conventional cabling 22 and a connector 102 coupled to an input of the NVA 100.***

(*Emphasis added.*)

This description is completely consistent with how a person skilled in the art would interpret the claimed "video signal." In this regard, it should be appreciated that a video signal is not simply any signal that may carry or include video content, but instead is a signal that is dedicated to carrying video content. Support for this interpretation was provided in attachments to Applicants' previous response, which are also attached hereto at Appendix B.

Significantly, Hendricks fails to teach or disclose "an input" of the camera 104, the controller 134, or the video tape 106 (cited as constituting the claimed computer) "for receiving a ***video signal output from a graphics card of a source computer***," as expressly recited in claim 1. In advancing this rejection, it appears that the Office Action is not giving any weight or meaning to the claimed phrase "from a graphics card of a source computer." Accordingly, this claimed feature, as properly construed, clearly defines over the generic teachings of Hendricks. For at least this reason, the rejection is misplaced and should be overturned.

As a separate and independent basis for the patentability of claim 1, Hendricks fails to disclose the claimed "***memory for storing discrete units of the video signal.***" For this claimed feature, the Office Action cited the digital storage element 132 (and similar storage elements 258 and 260 of FIGs. 9A and 9B). (see FINAL Office Action p. 8, line 5 – and the last paragraph of p. 8). This application of Hendricks simply makes no sense in the context of the claimed embodiments. In this regard, claim 1 recites: "An

apparatus … comprising: ***an input for receiving a video signal output from a graphics card of a source computer***; ***a memory for storing discrete units of the video signal…"*** That is, both the claimed "input" and the claimed "memory" comprise parts of the apparatus. As noted above, the Office Action cites elements 104 and 134 as constituting or disclosing the claimed "input." If this is the case, however, the digital storage 132 cannot properly constitute part of the same "apparatus," as it is a totally distinct (and separate) element in the system of Hendricks. Applicants appreciate that limitations from the specification are not to be read into the claims (and the Applicant is not arguing for any such interpretation). However, the Patent Office cannot give an interpretation to the claims that would be repugnant to the teachings of the specification.

In this regard, the claimed apparatus corresponds to the item 100 of FIG. 1 or item 200 of FIG. 4 of the present application. It is single device that comprises the various elements defined in claim 1. To apply the physically separate (and substantially unrelated) elements of the system of FIG. 3B (or 9A and 9B) as constituting the various claimed elements of the "apparatus" of claim 1 constitutes an interpretation of claim 1 that is repugnant to the clear teachings of the present specification. Indeed, as set forth in MPEP 2131, "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). … The identical invention must be shown in as complete detail as is contained in the ... claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Simply stated, Hendricks does not show the

"invention" of claim 1. For at least this additional reason, the rejection of claim 1 should be overturned.

As yet another independent basis for the patentability of claim 1, claim 1 further recites that the "apparatus … comprises … ***a compression circuit for compressing a plurality of the discrete units into a compressed video signal."*** As with the application of Hendricks to the claimed "memory" element, the Office Action has cited yet another separate physical component of the system of Hendricks – the compressor units 108 and 114 (see FINAL Office Action, p. 8). As described in connection with the memory element above, this application of Hendricks is misplaced.

Further still, claim 1 specifies that the compression circuit compresses the plurality of "discrete units" which are stored in the memory. The cited compression elements of Hendricks do not do this. For example, the Office Action cites element 108 as constituting the claimed compression circuit. However, element 108 operates on the output of video tape 106. Significantly, it does NOT operate on the output of the digital storage unit 132, which the Office Action has applied as constituting the claimed memory. Therefore, properly interpreting the these two claimed elements:

> ***a memory for storing discrete units of the video signal;***
> ***a compression circuit for compressing a plurality of the discrete units into a compressed video signal***;

it is clear that claim 1 requires the compression circuit to compress the "plurality of discrete units," which are stored in the memory. Assuming that the digital storage component 132 of Hendricks constitutes the claimed memory (as the Office Action has applied it), then the compression element 108 cannot properly apply to the claimed

"compression circuit" because it does not operate on the contents of the digital storage, but rather the output of the video tape.

The Office Action has also cited elements 114 and 270 as constituting the claimed compression circuit. As can be readily verified, however, this application of Hendricks suffers the same shortcoming. For at least this additional reason, the rejection of claim 1 should be overturned.

The Office Action also rejected claim 2 as allegedly anticipated by Hendricks. Applicant respectfully disagrees.

Like claim 1, claim 2 recites:

> 2. ***An apparatus for communicating graphics across a computer network comprising:***
> ***an input for receiving a video signal;***
> ***a memory for storing discrete units of the video signal;***
> ***a compression circuit for compressing a plurality of the discrete units into a compressed video signal;*** and
> a network interface circuit coupled to both the compression circuit and the computer network, the network interface circuit configured to format and communicate the compressed video signal over the computer network to a remote computer.

(*Emphasis added.*) Claim 2 patently defines over Hendricks for at least the reason that Hendricks fails to disclose at least the features emphasized above.

The features emphasized in claim 2 above closely parallel (for all purposes relevant to this appeal) the distinguishing features discussed above in connection with claim 1. Therefore, Applicants submit that the rejection of claim 2 should be withdrawn for at least the same reasons set forth above in connection with claim 1.

Claims 3-14 depend from claim 2, and therefore patently define over the cited art for at least the same reasons.

Claims 19-20

Claims 19-20 stand rejected under 35 U.S.C. § 102 as allegedly anticipated by Hendricks. With respect to independent claim 19: that claim recites:

> 19. A method for communicating graphics across a computer network comprising:
> ***receiving a video signal from a graphics card of a source computer;***
> converting the video signal into a format suitable for communication over a computer network; and
> communicating the converted video signal across the computer network to a remote computer.

(*Emphasis added.*) Claim 19 patently defines over Hendricks for at least the reason that Hendricks fails to disclose the feature emphasized above.

The Office Action cited the same features of Hendricks to the claimed operation of "receiving a video signal from a graphics card of a source computer," as it did to the "input for receiving …" element of claim 1. Accordingly, Applicants submit that this element is not taught in Hendricks, for the same reasons discussed above in connection with claim 1. In this regard, there is absolutely no disclosure in Hendricks of receiving a video signal "from a graphics card of a source computer." Applicant again refers to the evidence attached hereto in Appendix B for a proper interpretation of "graphics card" of a computer. For at least this reason, the rejection of claim 19 should be overturned. As claim 20 depends from claim 19, the rejection of claim 20 should be overturned for at least the same reasons.

CONCLUSION

Based upon the foregoing discussion, Applicant respectfully requests that the Examiner's final rejection of claims 1-14, 19, and 20 be overturned by the Board.

In addition to the claims of Appendix A, Appendix B attached hereto provides evidence reflecting the proper interpretation of the term "video signal" in the context of the claimed feature of a "video signal output from a graphics card of a source computer," as would be understood by a person skilled in the art. Appendix C attached hereto indicates that there are no related proceedings.

The fee for this Appeal Brief is authorized to be charged to Hewlett-Packard Company's deposit account (08-2025). Accordingly no additional fee is believed to be due in connection with this substitute brief. If, however, any additional fees are deemed to be payable, you are hereby authorized to charge any such fees to deposit account No. 08-2025.

Respectfully submitted,

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VIII. CLAIMS - APPENDIX

1. An apparatus for communicating graphics between at least two remotely-located computers across a computer network comprising:

an input for receiving a video signal output from a graphics card of a source computer;

a memory for storing discrete units of the video signal;

a compression circuit for compressing a plurality of the discrete units into a compressed video signal;

a network interface circuit coupled to both the compression circuit and the computer network, the network interface circuit configured to format and communicate the compressed video signal over the computer network to a remote computer; and

an output coupled to the computer network.

2. An apparatus for communicating graphics across a computer network comprising:

an input for receiving a video signal;

a memory for storing discrete units of the video signal;

a compression circuit for compressing a plurality of the discrete units into a compressed video signal; and

a network interface circuit coupled to both the compression circuit and the computer network, the network interface circuit configured to format and communicate the compressed video signal over the computer network to a remote computer.

3. The apparatus of claim 2, wherein the video signal is in compliance with a Digital Visual Interface (DVI) standard.

4. The apparatus of claim 2, wherein the video signal is an analog video signal.

5. The apparatus of claim 2, further comprising a circuit for converting an analog video signal into a digital video signal.

6. The apparatus of claim 2, wherein the computer network comprises a local area network (LAN).

7. The apparatus of claim 2, wherein the computer network comprises a wide area network (WAN).

8. The apparatus of claim 2, wherein the network interface circuit is configured to format the compressed video signal into a plurality of Internet Protocol (IP) packets that are communicated over the computer network to the remote computer.

9. The apparatus of claim 2, further comprising a second input for receiving a second video signal.

10. The apparatus of claim 9, wherein the compression circuit is further configured to separately compress a plurality of discrete units for each of the video signals.

11. The apparatus of claim 2, wherein the network interface circuit is configured to format and communicate separately compressed video signals to different remote computers, such that a first remote computer receives a first compressed video signal and a second remote computer receives a second compressed video signal.

12. The apparatus of claim 2, further comprising a plurality of network interface circuits, each network interface circuit being coupled to both a compression circuit and the computer network, each network interface circuit being configured to format and communicate the compressed video signal over the computer network to a remote computer.

13. The apparatus of claim 2, wherein the apparatus comprises a connector for direct connection to a source computer that supplies the video signal, wherein the connector comprises signals carrying power signals for powering the apparatus.

14. The apparatus of claim 13, wherein the connector is an edge connector configured to directly plug into a card slot of a motherboard of the source computer.

15-18. (Canceled).

19. A method for communicating graphics across a computer network comprising:

receiving a video signal from a graphics card of a source computer;

converting the video signal into a format suitable for communication over a computer network; and

communicating the converted video signal across the computer network to a remote computer.

20. The method of claim 19, wherein the step of converting comprises forming a plurality of Internet Protocol (IP) packets collectively embodying the video signal.

IX. EVIDENCE - APPENDIX

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www.seanet.com/~bradford/ntsc-video.html - 15k -
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In typical home applications, the composite **video signal** is typically connected using an RCA jack, normally yellow (often accompanied with red and white for ...
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Video Signal Standards
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Video Signal Measurement and Generation Fundamentals- Developer ...
This tutorial covers the fundamentals of **video signal** measurement and generation. ... A composite **video signal** is a **signal** in which all the components ...
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Anatomy of a **Video Signal**- Developer Zone - National Instruments
For information on any non-standard **video signal**, please refer to the camera ... To accomplish this, a scheme specifies how the incoming **video signal** gets ...
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ePanorama
For example the **video signal** used in analogue TV broadcasts, **video** on VCR tapes and **video** on ... There are also different **video signal** standards in use ...
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RS-170 **video signal**
They have single output cable which carries an RS-170 **video signal**. ... Twenty years after the drafting of RS-170, the EIA **video signal** standard proposal ...
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Rickard's electronic projects page - How to generate composite ...
When you know how a **video signal** should look like, it is quite easy to ... To be able to generate a **video signal**, some hardware is needed to be able to ...
www.rickard.gunee.com/projects/video/pic/howto.php - 56k - Cached - Similar pages

Video Engineering Primer
The seven elements of the composite **video signal** include: ... By viewing the **video signal** on this scale, you can modify any **signal** that goes above the 100 ...
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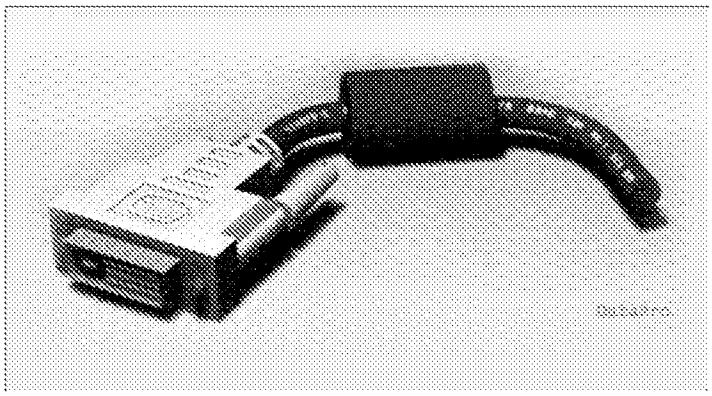

Standards

- Composite
- S-Video
- TV / CATV
- RGB
- Component

Broadcast Standards

- NTSC
- PAL
- SECAM

Video Conversion Products
Video Cables

VIDEO STANDARDS

Composite Video:

Composite video is the standard that can connect almost all consumer video equipment - television sets, DVD players, VCRs and camcorders.

Normally it is transmitted over basic composite video cables with male

RCA plugs on each end. Sometimes you will see these as dual RCA cables, which are used for stereo audio cables, and also a triple RCA cables for combined composite video and stereo audio cables.

Composite video combines the three basic elements of a video picture (color, brightness, and synchronization data) into a single combined ("composite") signal.

S-Video:

S-Video, also called Y/C, uses two separate video signals. The luminance (Y) is the black & white portion, providing brightness information. The chrominance, or chroma (C) is the color portion, providing hue and saturation information.

Essentially, and S-video signal is a composite signal that has been divided into two. This video signal, transmitted with color and brightness on two separate channels, makes for a sharper picture image, with less granularity, on the receiving device.

S-Video is carried on cables that end in 4-pin Mini-DIN connectors. Other types of cables, such as the Apple ADB cable, also uses this same connector, although the type of wire used is different.

Since digitized granularity looks worse than analog granularity, choose S-Video over composite video whenever this is an option. You will also experience less "dropout" with S-Video than with composite video.

TV/CATV:

TV Cable signals are carried as a single, composite-type 75-Ohm analog signal. Usually, RG59 or RG6 coaxial wire is used. The RG59 cable is good for up to 750 feet without boosting, and RG6 is good for up to 1500 feet without boosting. The maximum signal strength allowed by the FCC is 15.5dBmV. Add attenuators when the signal is too high, and tilt compensators for long-distance runs.

RGB:

Although Component Video is sometimes refered to as RGB video, RGB is not actually a video standard, but rather a standard for computer monitors. It requires a four conductor cable for connecting a monitor to a CPU. In concept, it is similar to S-Video. Three of the conductors carry color information for the red, green and blue components of the image, while the fourth, called the "sync" or synchronization line, carries timing information to be used concurrently with the color information.

Because RBG separates the video signals based on color information and not luminance/chroma, it is possible to create an RGB to VGA cable without electronic conversions.

Component Video:

Component video is a newer format of video signal that takes the advancement from composite (1-signal) to S-Video (2-signals) one step further. It has separated luma (brightness) and chroma (color), but the chroma is also separated into two signals, red and blue. The result is a triple-headed

RCA cable and an image cleaner than composite with less color bleeding that S-Video. Although common on newer DVD players, high-end HDTV's, and relatively modern CRT televisions, component video is very rare on older TV sets and VCR's.

It is important to remember that with component video, the triple- headed cables are often colored red, green, and blue, but they do not carry color signals. Generally, these cables are known as YUV, Y for luma and UV for the two chromas. This is the reason that it is *not* possible to go directly from a computer monitor to a component source, and instead need a VGA-Component Adaptor.

Broadcast Standards

Another group of standards combine technical and legal definitions. These are called NTSC, PAL, and SECAM.

NTSC

NTSC stands for National Television Standards Committee. It is the video transmission standard for North and Central America, including Mexico and Canada, and Japan. Its technical format is 525 lines per frame with roughly 30 fps (frames per second) refresh rate. It is pretty much synonymous with composite video when talking about a video signal, but is not necessarily equivalent to the output from a video capture card that may claim to be NTSC-legal.

PAL

PAL (Phase Alteration Line) is the European counterpart to the NTSC standard. It has a higher vertical

resolution (625 lines per frame) but a lower refresh rate (25 frames per second) that can cause flickering. It is the standard for the UK, Western Europe, the Middle East, and parts of Africa and South America.

SECAM

SECAM (Systeme Electronic Pour Couleur Avec Memoire) is very similar to PAL. It specifies the same number of scan lines and frames per second, but differs in that chrominance (color) is FM modulated. It is the broadcast standard for France, Russia, and parts of Africa and Eastern Europe.

IX. RELATED PROCEEDINGS- APPENDIX

None.